ACQUISITION STREAMLINING

1. Introduction.

a. During the past 25 years, streamlining the defense acquisition process has been a primary goal of numerous acquisition leaders. Newly appointed officials, selected to run the Defense Department's acquisition efforts, have deplored the amount of time it takes to field new weapon systems. Some of these officials have come from American corporations where they earned a reputation for decisive and effective action. With the infusion of so much talent having boundless energy and innovative ideas, why does it still take the Defense Department so many years to field its weapon systems?

b. I believe the reasons are numerous. Developing, producing and fielding new weapon systems are among the most challenging tasks confronting modern society. In this environment, the following must be addressed:

(1) Threat. What new threat to the United States will materialize in the next 10-20 years that will mandate a new defensive capability? Bear in mind the current world-wide technological explosion and its impact on third world countries. A rapidly changing threat can change system requirements. This may cause program delays as Defense contractors modify their system design to accommodate the changing threat.

(2) Technology. What new technology will become available in the next 10-20 years? How do we design a system that can incorporate newer capabilities with limited defense budgets and an imperative to maintain a strong logistics structure? For example, if we want to incorporate newer technology in our radios, we must modernize all radios and purchase replacement parts for maintenance purposes. How do you say no to people who want to add new technology beyond the system requirements?

(3) Changing priorities. How do you plan and manage a program whose level of funding can fluctuate several times during each fiscal year? Obviously, changing priorities will directly affect the program funding levels. These fluctuations cause changes in the program schedule, usually causing the program to "stretch out" beyond its original planned completion date. Additionally, you will normally see an increase in the per unit cost as a result of delaying or "stretching out" production.

(4) The bureaucracy. No mistake about it, we live with a large amount of bureaucracy. By this I mean there are numerous organizations and people that must be satisfied during each system acquisition. For example, people representing the following issues are ever-present. While they have legitimate concerns, the sum of their efforts tends to increase the acquisition schedule.

- o Potential adverse health impact of the system
- o Environmental impact
- o Testing adequacy
- o The system being user friendly
- o Producibility planning
- o Cost estimating accuracy
- o Meeting national and international legal restrictions
- o Having an optimum logistics infrastructure
- o The system being transportable
- o Minimizing life cycle costs
- o Accommodating small business objectives
- o Producing the system within selected states
- o Having adequate training programs
- o Disaffected contractors (bid protests)
- o Management oversight

c. Having mentioned these challenges to Defense acquisition programs, there are examples of systems that were acquired in minimum time. Examples such as Liberty Ships and the P-51 Mustang fighter (WW II), Pershing P-2 missile (counter to the Soviet SS-20), and a bunker-busting bomb (Desert Storm) were quickly developed and produced during times of national crisis. This unit of instruction addresses acquisition streamlining techniques that can reduce the amount of time spent obtaining a new or improved military capability without the added threat experienced during a national crisis.

2. Objectives. At the conclusion of this material, you should be able to describe:

a. At least six acquisition streamlining initiatives.

b. The program risk incurred when applying a given acquisition streamlining initiative.

3. Streamlining Initiatives. The following streamlining initiatives have been selected on the basis of their proven worth or potential savings.

a. Creating a central repository for numerous acquisition policies is deemed a streamlining technique. “The Defense Acquisition Deskbook provides the Army Acquisition Corps an automated reference tool for easy access to information associated with their work. The Deskbook Joint Program Office serves the acquisition community by providing a centralized

electronic means to update and distribute information across all task levels of acquisition and procurement organizations."[1]

b. Implementing a modeling and simulation strategy.

(1) The Simulation Support Plan (SSP), required for all system programs, is the vehicle to effectively manage and integrate modeling and simulation in the acquisition process. It addresses all types of modeling and simulation including live, virtual, and constructive simulation applications. It establishes an integrated plan to create the most efficient and effective acquisition strategy for our weapon systems. A myriad of resources exist to assist program managers execute this responsibility. Program managers should optimize their modeling and simulation efforts by including modeling and simulation support agencies in the Working Integrated Process Teams (WIPT). Program managers should select the optimal suite of modeling and simulation efforts to eliminate duplication and optimize reuse.

(2) "Modeling and simulation are seeing increasing application as tools to support all aspects of the acquisition process, and play a critical role in acquisition streamlining. Constructive (for example, war-gaming), and virtual (such as human-in-the-loop) simulations and simulators are used to aid in concept exploration; often in conjunction with training exercises. Virtual prototyping, synthetic environments and stimuli, system stimulators, and hardware-in-the-loop simulation are useful in selecting, demonstrating and validating technologies and designs. Virtual factory design, logistics modeling, and testing with modeled operational scenarios and synthetic environments and stimuli support Engineering and Manufacturing Development (EMD)."[2] (Note: EMD is now referred to as the System Development and Demonstration Phase.)

c. Maintaining the Acquisition Streamlining & Standardization Information System (ASSIST) database. ASSIST is a database system for DoD-wide standardization information management. The ASSIST database system resides at the DoDSSP, located at the Defense Automated Printing Service (DAPS) in Philadelphia, Pennsylvania. It contains numerous publications electronically available to subscribers. This capability reduces time spent waiting for documents to be delivered through other means.

d. A major goal of acquisition streamlining is to use commercial and industry practices to the greatest extent possible. MIL-HDBK 61, *Configuration Management.*

e. Buy commercial items and non developmental items whenever possible. Potential benefits are:

[1] Army Acquisition Policy Statement, 10 Nov 1997.
[2] DA PAM 70-3, Research, Development and Acquisition.

- Savings in procurement costs. The economies of scale of the much larger commercial market allow items to be sold at lower prices.
- Reducing technical risk associated with new development. Commercial products have already undergone R&D.
- Decreasing time to field systems.
- Ability to get the latest technology. In many of the technological areas significant for defense items, the defense department no longer leads private industry in research, development, and application. For example, in the fields of communications, electronics, and computers, the pace of technological evolution resulting from high commercial demand outstrips the capabilities of any government research and development (R&D) program.
- Integrating the defense and commercial industrial bases. DoD requirements that are integrated into commercial production are far more likely to have a stable and existing industrial base to draw from if there is a surge in requirements due to an emergency. DoD business may not be sufficient to keep defense-unique suppliers in business.

In order to know about commercial products, an ongoing market research program is needed.

f. Giving industry more authority to make design tradeoffs while holding them responsible for system performance. This is the end goal for using performance-based specifications rather than citing military specifications and standards in contracts.

g. Using electronic business operations to expedite communication with contractors. Electronic Business/Electronic Commerce is defined as the interchange and processing of information via electronic techniques for accomplishing transactions based upon the application of commercial standards and practices. Further, an integral part of implementing EB/EC is applying business process improvement or reengineering to streamline business processes prior to the incorporation of technologies facilitating the electronic exchange of business information.

h. Implementing or maintaining the integrated product and process development (IPPD) concept. DoD defines IPPD as, "A management process that integrates all activities from product concept through production/field support, using a multifunctional team, to simultaneously optimize the product and its manufacturing and sustainment processes to meet cost and performance objectives." IPPD evolved from concurrent engineering, and is sometimes called integrated product development (IPD). It is a systems engineering process integrated with sound business practices and common sense decision making. Organizations may undergo profound changes in culture and processes to successfully implement IPPD

i. The Federal Acquisition Streamlining Act of 1994. Among other things, this legislation simplified acquisition of commercial items and allowed DoD to explore innovative acquisition procedures under DoD's statutory pilot program authority.

j. Software acquisition improvements.

(1) Software Acquisition Best Practices (SABPs) was initiated by DoD in 1994. This initiative was based on the fact that many effective practices exist for managing software, both in industry and Government. However, their use and understanding was not widespread within DoDs software acquisition programs. Several panels were studying successful software programs in the public and private sectors to determine those practices that were characteristics to all programs as significant leverage items for success. These studies resulted in the guidelines for Software Acquisition Best Practices.

(2) The Software Acquisition Capability Maturity Model (SA-CMM) is a collaborative work of authors from Government, industry, and the Software Engineering Institute (SEI) of Carnegie Mellon University in Pittsburgh, PA. The SA-CMM is intended to identify a minimum set of actions that, when implemented, will improve the capability of the organization's software acquisition process. It is being developed to provide organizations a road map for implementing software acquisition process improvement.

(3) As the cost and complexity of our software applications increase, it is essential the Army understands and utilizes innovative and efficient software development processes. Software reuse is a recognized software engineering discipline that can result in lower costs, shorter schedules and improved reliability.

k. Implement the Army Acquisition Reform Strategies. These are:

(1) Remove barriers to business judgment. An underlying principle of the strategy is the elimination of barriers to the use of good business judgment at all levels. Examples are:

- o Waive or seek relief from low value-added directives.
- o Replace functional stove pipes with integrated product teams (IPTs).
- o Involve fewer people and reduce formal coordination.

(2) Provide acquisition tools. The workforce must be provided the tools to smarter ways of doing business. As a minimum, the following tools should be used to implement acquisition reform:

- o Use partnering and teaming.
- o Use simplified acquisition procedures and credit cards.
- o Use information technology and electronic commerce.
- o Use common processes and performance based contracts.

(3) Streamline processes, e.g.,

- o Use integrated process action teams to conduct process analyses and identify bottlenecks and non-value added hierarchies and steps.
- o Reduce the number and size of regulations and policy documents by 50 percent.
- o Reduce the number of hand-offs and reviews and establish clear and direct lines of responsibility and authority.

(4) Reduce Overhead. The central thrust of this goal is to reduce both contractor and government overhead in the acquisition process and speed up the process to reduce costs, e.g.,

- o Restructure organizations and processes by focusing on the customer.
- o Maximize using the Single Process Initiatives and extend to service and base support contracts.
- o Reengineer and integrate the requirements, budgetary and testing processes into a streamlined acquisition team.
- o Consolidate and centralize acquisition functions, maximizing information technology, into acquisition centers of excellence.

Reducing overhead will eliminate wasted manhours and expense. These savings can be directed toward accomplishing actual program goals.

(5) Empower individuals to use their own judgment for business decisions. The central thrust of the Army acquisition reform strategy is entrusting the acquisition workforce to find smarter ways of doing business to achieve desired outcomes, e.g.,

- o Delegate authority and reward results.
- o Encourage innovation by issuing guidance, not rules.
- o Support risk management, not adverseness.
- o Empower decision-making to the lowest possible management level.

(6) Put metrics in place to measure progress. Elaborate reporting and feedback systems are counterproductive, but a few key value-added metrics are necessary to focus efforts and determine progress. Army reform metrics should be developed to support the command strategy, be directly related to measurement of outcomes, and measure progress in the following high payoff areas:

- o Measure the rapidity of technology insertion into fielded systems.
- o Measure increased use of performance specifications.
- o Measure the reduction in acquisition cycle and procurement lead-times.
- o Measure total cost reductions.

(7) Manage for End Results. A sharp focus on end results will change the old risk-adverse culture, e.g.,

- o Focus on the customer and the product or service required.
- o Operate on the basis of trust.
- o Use past performance as a key factor.
- o Tailor oversight to performance risk.
- o Prepare and use acquisition reform "Lessons Learned" and "Success Stories" to promote institutional change.

l. Testing initiatives.

(1) Continuous Evaluation (CE) is the process that provides a continuous flow of test and evaluation information on the capabilities of a system to all levels of decision makers. The process encourages early and frequent assessments of a system's status during development, and can significantly reduce test time and costs through comparative analysis, data sharing, and use of all data sources for evaluation. It should begin as early as possible and continue through a system's post-deployment activities. The CE process makes use of the basic elements of T&E to create an integrated and continuous flow of information on the status of a system's capabilities. The CE process is applicable to all types of acquisition strategies and all categories of acquisition programs. DA PAM 73-1.

(2) Modeling and simulation will be considered to support the developmental and operational test and evaluation of all systems as they proceed through the life cycle. Models and simulations will include, but not be limited to, identifying test parameters and drivers for field tests; determining high risk areas; predicting test results; assisting in the allocation of scarce test resources; providing entity stimulation in support of interoperability testing; and assessing system capabilities in situations which cannot be tested due to safety, cost, or other constraints. The extent of the use of modeling and simulation; whether existing models and simulations will be used or new ones will be developed; status of models and simulations verification, validation, and accreditation; and the degree to which models and simulations will augment test data to assist in system evaluations and assessments will be documented in the Test and Evaluation Master Plan (TEMP). Models and simulations used for T&E must be accredited and validated before they are used either for extrapolating or predicting system performance (including software, hardware, or man-in-loop).

(3) Consolidate testing where possible. Maintaining separate but similar developmental and operational tests is wasteful.

m. Contracting initiatives.

(1) The term "simplified acquisition threshold" means $100,000. Federal Acquisition Streamlining Act. "Simplified acquisition procedures" means the methods prescribed in Part 13 for making purchases of supplies or services. Purchase order means an offer by the Government to buy supplies or services, including construction and research and development, upon specified terms and conditions, using simplified acquisition procedures.

(2) The purposes of using simplified acquisition procedures are to:

- Reduce administrative costs.
- Improve opportunities for small, small disadvantaged, and women-owned small business concerns to obtain a fair proportion of Government contracts.
- Promote efficiency and economy in contracting.
- Avoid unnecessary burdens for agencies and contractors.

(3) Use contractor ingenuity and experience. Most major contractors have been developing, producing, and marketing their products for commercial, industrial, and Government use for many years. Take advantage of that available source of expertise by specifying system-level requirements in the broadest functional or performance terms. Invoking detailed design specifications or standards in the early phases is counterproductive and 1imits the latitude for contractor ingenuity and experience in developing a quality and cost-effective design. Unless techniques are actually important to DOD, do not tell the contractor how to perform. MIL-HDBK 248B, *Acquisition Streamlining*.

(4) What is different about streamlined acquisition contracting? Acquisition streamlining implies a change in the balance of responsibilities between the Government and industry (the contractor); one in which the Government provides the contractor with more discretion, less-detailed guidance, and greater incentives and rewards for innovation. The contractor, in turn, assumes more responsibility for designing and developing a producible system and producing it on schedule and within budget. Acquisition streamlining emphasizes three important points:

- Source selection criteria, especially in a competitive environment, should reflect best value to the Government. Best-value contracting is focused not on selecting the contractor offering either lowest cost or best performance, but rather on selecting what represents the best value. Best-value selection implies some flexibility about requirements to allow for tradeoffs.
- The Government should employ a team approach in contract development and negotiation. Streamlining cal1s for judgment on the part of the Govern-ment, especially in dealing with cost and performance trade-offs. Government contracting and technical personnel will need to work closely to clearly indicate where tradeoffs are acceptable so the contractor wil1 know what is wanted and will be able to price it fairly.
- Contracting tools should be used to ensure that the requirements included in contracts are cost-effective and imposed at the most appropriate time. These tools include an acquisition streamlining clause that calls on the contractor to recommend selective application and tailoring of specifications, standards, and other contract requirements and to limit the tiering of specifications as described in the contract statement of work.

n. Concurrent Engineering. Concurrent engineering is defined as a systematic approach to the integrated current design of products and their related processes, including manufacturing, test, and support. This approach is intended to cause the developers, from the outset, to consider all elements of the product life-cycle from conception through disposal, including quality, cost, schedules, and user requirements.

o. Summary of program manager's considerations. As a program manager, you must ensure that system operational requirements are developed through several iterations with the user to optimize the equipment for a military mission, balancing performance and cost. That process should evaluate unrealistic or marginal requirements and adjust or eliminate them as long as that adjustment or elimination does not impair the basic goal of the program: the job

to be done. The resulting requirements represent your judgment of the best value. Systems engineering should be used to identify top-level design requirements to be allocated to lower-level subsystem: and components. You must make sure that you provide an audit trail of how and why those design requirements are aggregated and allocated so that if a particular subsystem approaches its technical limit, you can consider reallocation of functions to relieve those constraints. Analysis of functions requirements involves tradeoffs among conflicting goals, including cost, schedule, and various aspects of performance. You must be sure that the analyst recognizes the risks related to uncertainty in meeting any one of the goals. If failure to meet a design objective would have a severe detrimental impact on another aspect of the design, the success of the entire program could be at risk. The analysis must point that out.

4. Horror Stories. Stories illustrating the need for reform abound. For example:

a. “DoD is Often Unable to Acquire State-of-the-Art Commercial Technology. A commercial company was planning to introduce a radio with special encryption features sought by DoD. Because the item had not been sold in substantial quantities to the public, it could not qualify for an exemption to DoD's requirement that the company provide cost data. Since the company did not generate such information for their commercial customers, it would have had to set up a new accounting system to track and verify the information if it wanted to sell the radios to DoD. It couldn't afford to do that. The result was that DoD was stuck buying old technology while commercial customers bought the new, more capable radios.

b. DoD is Often Unable to Buy from Commercial Companies -- Even When Their Costs are Cheaper or DoD Must Buy a Commercial Product Because it is the Only One They Can Get. A military hospital wanted to buy aspirin. The low bid was $3.98 per unit. DoD ended up having to buy from the next lowest bidder -- for $4.40 per unit, because the low bidder was a commercial company that refused to disturb its long-standing subcontractor relationships to fulfill DoD requirements that a certain percentage of its subcontractors were small, disadvantaged businesses. The additional cost to DoD was $107,000 over the life of the contract.

c. The Air Force attempted to negotiate a new contract with an aircraft manufacturer to supply spare parts for it military version of a commercial aircraft. The company was only manufacturing the spares in its commercial division, which did not meet the requirements for doing business with the Government. In January, 1988, the company first notified the Air Force that it would need a commercial item exemption in order to provide these spares. It took until June, 1992 -- four and one half years -- until the Air Force and the company were able to agree on contract terms and conditions. During that time countless hours were spent by the contractor, the Air Force, and OSD personnel attempting to determine which of the 278 clauses in the Air Force contract could be waived. They finally received waivers on approximately 11 clauses.

d. Commercial divisions of a major defense electronics company simply refuse to do business with the Government. They cite several reasons: their commercial division accounting systems cannot provide the cost data required by DoD; they don't want to incur the added cost of complying with Government-unique terms and conditions; they are wary of giving the Government the right to audit proprietary cost and financial information; and fear losing their commercial proprietary data and software. Because many of these requirements are required to be "flowed down" by a prime contractor to its subcontractor, and there is no exception for inter-company transfers, not only can these divisions not sell to DoD, but they cannot transfer their parts to divisions of the company that do sell to the Government without changing their commercial processes to accommodate the Government requirements. This means that the company either cannot use its own company's semiconductors, or cannot charge the Government for the components, because the semiconductor division of the company does not have an approved Government accounting system. One company projected it will have included over $1,000,000 worth of semiconductors at no cost to the Government on just two current DoD programs.

e. DoD's Costs of Doing Business are Too Great. DoD sent out a solicitation for a quantity of ant bait expected to cost $25,595, based on the last purchase made. This meant that DoD had to use the standard, lengthy solicitation procedures rather than existing streamlined procedures for "small purchases" -- those $25,000 or less. The solicitation was 29 pages long, and it took 227 days to award the contract. As it turned out, the lowest bid came in under $25,000. Had the threshold for "small purchases" been higher, the contracting officer would have been able to use simplified procedures at the outset, and the contract could have been awarded in 27 days instead of 227.

f. As a 1991 report by the Center for Strategic and International Studies, concluded, the existing acquisition system results in higher prices to DoD (even when lower-cost commercial alternatives exist for the same requirements), loss of a broad domestic production base that could be available to defense for peacetime and surge demands, and lack of access to commercial state-of-the-art technologies. Additionally, the wall between engineers and scientists engaged in commercial and military work impedes the kind of shoulder-to-shoulder contact that is the essence of technology transfer and that is basic to achieving greater job stability and growth opportunities for the U.S. work force."[3]

5. Summary. While there are numerous acquisition streamlining initiatives, I don’t believe you can apply all of them to a single program and no specific initiative is ‘best.’ Each streamlining initiative should be examined for its applicability to a given program. Choosing one or more streamlining initiatives should be based on a validated requirement to field the capability early and must consider the attendant increase in schedule risk as well as possible cost increases and capability decreases.

[3] Acquisition Reform: Mandate for Change